

REMARKS/ARGUMENTS

In response to the Office Action dated February 26, 2003, Applicants respectfully request reconsideration. Initially, Applicants note that the Examiner specifically rejected claim 49 only under 35 USC 112, second paragraph, but did not note that claim 49 would be allowable if amended to overcome this rejection. Applicants have treated claim 49 as being rejected under 35 USC 103 in view of U.S. Patent No. 4,180,792 (Lederman) because claim 41, that has wording similar to claim 49, was rejected under 35 USC 103 in view of Lederman.

Claims 33-49 stand rejected under 35 USC 112, second paragraph for being unclear as to the relationship of the apertures. Applicants have amended independent claims 33 and 45 to recite that the apertures with different center-to-center spacings are adjacent apertures, with one aperture between two other apertures, and with two apertures on opposite sides of an aperture, respectively.

Claim 35 stand rejected under 35 USC 112, second paragraph for being unclear as to with what regard the beam is steered. Applicants have amended claim 35 to recite that the beam is steered relative to a mainbeam direction of the apertures with the phases of the energy emitted from each of the apertures being the same.

Claims 33-37 stand rejected under 35 USC 102(b) in view of Lederman, but Lederman fails to teach, disclose, or suggest at least the aperture spacing recited in independent claim 33. Independent claim 33 recites emitting ultrasound energy from first, second, and third apertures, with a distance from the center of the first aperture to the center of the second aperture being different than a distance from the center of the second aperture to a center of the third aperture. The second aperture is disposed adjacent the first aperture and the third aperture is disposed adjacent to the second aperture with the second aperture disposed between the first and third apertures. Conversely, Lederman discusses a transmit array with one spacing and a receive array with a different spacing, but the combined transmit/receive array has "a single row of electroacoustic transducer elements comprised of a **transmit** array of **equally spaced** unit transmit elements." (Col. 4, lines 3-5; emphasis added). Lederman does not teach, disclose, or suggest the **different spacings for emitting** ultrasound energy recited in independent claim 33. Claims 34-37 that depend directly or indirectly from claim 33 are patentable over Lederman for at least the same reason.

Claims 38, 39, and 41-49 stand rejected under 35 USC 103(a) in view of Lederman, but Lederman fails to teach, disclose, or suggest at least the aperture spacing recited in independent claims 33 or 45. For at least the reason discussed above, Lederman does not render independent claim 33 obvious, and therefore does not render obvious claims 38, 39, or 41-44, that depend directly or indirectly from claim 33. Further, Lederman does not suggest the aperture spacing recited in independent claim 45. Claim 45 recites emitting ultrasound energy from apertures of different sizes that are arrayed with centers of the apertures displaced by at least two different distances measured from one aperture to two adjacent apertures on opposite sides of the one aperture. Lederman discusses an array of transmitting transducers that are equally spaced, not with centers displaced different amounts as recited in claim 45. Thus, independent claim 45, and claims 46-49 that depend directly from claim 45, are patentable over Lederman for at least this reason.

Claim 40 stands allowable except that it depends from a rejected base claim (33). Claim 40 is patentable for at least the reason discussed above as to why the rejected base claim, claim 33, is patentable.

Based on the foregoing, this application is believed to be in allowable condition, and a notice to that effect is respectfully requested. If the Examiner has any questions, he is invited to call the Applicants' Attorney at the number provided below.

Respectfully submitted,

  
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